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ABSTRACT

Many educators agree that parental involvement is an important factor in a child's achievement in school. Views of the quantity of involvement differ. This one-semester study was designed to determine if parental knowledge of classroom objectives would significantly influence student achievement in physical science. Thirty-three physical science students from two classrooms of an Illinois high school were randomly divided into an experimental group (N=17) whose parents were informed of course objectives, and a control groupp (N=16) whose parents were not informed. Based on end-of-year grades, this study found no significant difference between control and experimental groups indicating that parental knowledge of classroom objectives had no significant effect on student achievement. (CW)

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PARENTAL KNOWLEDGE OF COURSE OBJECTIVES AND GRADES OF HIGH SCHOOL PHYSICAL SCIENCE STUDENTS

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PARENTAL KNOWLEDGE OF COURSE OBJECTIVES AND GRADES OF HIGH SCHOOL PHYSICAL SCIENCE STUDENTS

Improving the academic achievement of students is a never-ending trend in education. In today's educational world, parent involvement can be a very important tool when trying to improve student achievement. In this study "parent knowledge of course objectives" can be described as a form of parent involvement. There is no research relevant to how parent involvement will improve the grades of a physical science student. Therefore, there is a need to know how parent involvement will effect student grades in physical science. The information from the study will add to the state of knowledge on parent involvemnt in education. The data would be important to teachers, school administrators, school boards, parents, general public, and state legislatures.

Since the report "A Nation at Risk" was written, education has been the focal point of many discussions on the local, state, and federal levels. It recommended several ways in which our nation's educational system could be improved. In a report published by the International Reading Association, Guthrie (1983) wanted to assist educators in understanding the report by presenting guidelines in the literary processes, curriculum content, teacher effectiveness, textbook quality, and parent involvement.

Educators from all over the United States set forth to improve their systems by incorporating programs which include emphasis in developing curriculum, teacher effectiveness and parent involvement (DeBruin, 1980) (Los Angeles Unified School District, 1983) (DeBruin, 1986).

Educators have agreed for many years that parent involvement in the educational program is very important. Their views have differed, however, about the quantity of parent involvement. Both teachers and administrators have felt uncomfortable when parents have infringed on their "territory" (Saxe, 1984).

Guthrie (1983) states, "School policies about parent involvement are sometimes based on decisions that force a choice between parent involvement at school and parent involvement at home (pg.18)." He, then, concludes that the best programs give the parents multiple roles at school and home.

Natriello and McDill (1986) suggested that teachers, parents, and peers had a positive and significant effect on the time secondary students spend on homework, but the parents' achievement standards had a negative effect on student achievement in English.

Elissa Fisher (1986) studied the effects of the learning therapy structure at the Hill Top Prep School in Philadelphia, Pennsylvania, on learning disabled students' academic achievement and self image. She found that by keeping the parents abreast of their child's progress the student functioned better academically and socially.

In a grant study done by the University of Minnesota - Minneapolis (1982), parents and their middle school children learned science together in courses designed to contain home activities as well as classroom and field trip activities. "The results of pre and post cognitive tests indicated that informal courses which provide science learning experiences for both parents and their children may be an effective and rewarding method of increasing scientific awareness in our society (pg. 6)."

Kevin Marjoribanks (1984) concluded on a follow-up study of 11-year-old Australian children that parental influence is the strongest factor governing student academic performance.

In a study of successful Asian-American college students by Mordkowitz and Ginsburg (1986), it was found that specific aspects of home socialization can exert a positive effect on school adjustment and achievement.

As previously reported, Guthrie (1983) indentified recommendations from the report "A Nation at Risk" and put them into instructional guidelines consistent with the report and current reading research. His booklet contains a section specifically dealing with parent involvement. He states, "...2,575 empirical studies of academic learning shows that parents directly or indirectly influence the eight chief determinants of cognitive, affective, and behavioral learning (pg. 17)."

In summary, the vast majority of studies show that there is evidence to prove that parent involvement, regardless of discipline or type of student, will improve the student's academic achievement.

PROCEDURES

The population selected for this study included thirty-three physical science students, ages 14-17, from Bradley-Bourbonnais Community High School in Bradley, Illinois. The students were from white, middle-class families. The population consisted of two classrooms of sixteen and seventeen students, respectively. Both teachers were white and had over six years experience.

All thirty-three students were scheduled randomly into two classes of sixteen and seventeen each. The class of sixteen was made the control group, and the parents were not notified of the class objectives. The class of seventeen was made the experimental group, and the parents were notified of the course objectives.

The experimental and control groups were randomly assigned to their respective treatment conditions. During the first semester, both groups were taught in a similar manner with identical course objectives. The parents were never notified of the course objectives. At the beginning of the second semester, the experimental group hand-delivered the course objectives to their parents, and the control group did not give the course objectives to their parents. Every attempt was made to minimize the influence of extraneous variables. At the end of the second term, semester grades were assigned as directed by school policy. The duration of the study was one semester. The posttest only control group design was used.

RESULTS OF THE STUDY

In an attempt to determine the effect of parental knowledge of course objectives on the semester grades of high school physical science students, thirty-three physical science students were randomly assigned to two separate classes. At the beginning of the second semester, the parents of the experimental group were given copies of the course objectives by their children, and the parents of the control group did not receive any of the course objectives. At the end of the 1987-88 school year, second semester grades in physical science were obtained from the official school records. Since the students were randomly assigned to the classes, the t Test was the appropriate test of statistical significance. Computation and examination of the means and t Test (at the .05 level of confidence) indicated that neither group recieved significantly higher grades (see Table 1).

Therefore, the null hypothesis that "students whose parents were notified of course objectives will not obtain significantly higher semester grades than those students whose parents were notified" was accepted.

Table 1
Means, Standard Deviations, and t Tests for the Students Whose Parents Received Course Objectives Group and the Students Whose Parents Did Not Receive Course Objectives Group for Semester Grades

Semester Grades	Experimental	Control	t Test
Mean	2.8	3.6	1.904
SD	1.38	1.05	

Note: Maximum G.P.A. = 5.0
* = significant at .05 level of confidence

DISCUSSION

The results of this study support the null hypothesis: high school physical science students whose parents were notified of course objectives will not obtain significantly higher semester grades than those students whose parents were not notified.

The mean scores of the experimental and control groups show that the control group scored higher than the experimental group, but this is inconsistent with a majority of studies concerning parent involvement and student achievement (Guthrie, 1983; Saxe, 1984; Fisher, 1986; University of Minnesota - Minneapolis, 1982; Marjoribanks, 1984; and Mordkowitz and Ginsburg, 1986). However, they do coincide with the study by Natriello and McDill (1986) that found that the achievement standards set by parents had a negative effect on the student grades in English. This may be the reason for the control group receiving higher grades than the experimental group, or perhaps, there is another factor that is not apparent. However, since the findings were insignificant (at the .05 level), the study could be made again with a different result. Therefore, the results of this study are inconclusive.

More studies of this nature should be made to isolate the factors that may have effected the one done. Knowing the factors that might increase the achievement level of students would be very beneficial to teachers and parents alike.

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